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MAJOR THROMBOCYTOPENIA AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT

Poster Contributions
Poster Sessions, Expo North
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Session Title: Structural Heart Disease Intervention
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Background: Thrombocytopenia has been observed after both surgical aortic valve replacement (SAVR) and TAVR but its determinants, sequelae and relative magnitude have been poorly elucidated. We sought to investigate thrombocytopenia post Transcatheter Aortic Valve Replacement (TAVR) and to contextualize its magnitude and clinical significance.

Methods: Quantitative platelet responses were compared in TAVR and SAVR. An Edwards-Sapien TAVR population was studied for the determinants and outcomes of major thrombocytopenia (defined as platelet count < 100 x 109/L). Changes in platelets were studied in 246 patients undergoing TAVR and a similar population of 57 cases undergoing SAVR (US PARTNER IA trial surgical cohort) in a single center.

Results: An early drop in platelets was seen on the day of intervention. The drop day 1 post procedure was similar but slightly greater with SAVR vs TAVR. In SAVR and TAVR, the platelet counts continued to drop, reaching a nadir of approximately 50-60% of the baseline platelet count at day 2-3. Platelet numbers started to recover after day 5. After TAVR (n=246), early major thrombocytopenia (by nadir count) occurred in 37% of patients but was not significantly related to major bleeding (OR 0.89, 95% CI 0.51-1.60, p=0.69) or risk of stroke (HR 0.61, 95% CI 0.16-2.20, p=0.45). There was a non-significant trend to greater acute kidney injury (OR 1.76, 95% CI 0.95-3.26, p=0.073) and mortality (HR 1.47, 95% CI 0.98-2.22, p=0.065) with early major thrombocytopenia. Major thrombocytopenia was persistent in 7.7% of patients and persistent major thrombocytopenia was independently associated with mortality in multivariable analysis (HR 3.65, 95% CI 1.63-8.16, p=0.002).

Conclusions: Post-TAVR thrombocytopenia is a common phenomenon and its magnitude appears similar to that seen after SAVR. It is most often transient, not associated with adverse sequelae and should be managed in an expectant fashion. However, when persistent, thrombocytopenia is associated with a poor clinical outcome and merits detailed evaluation.